

IN THE CLAIMS:

- 1 1. (Cancelled)
- 1 2. (Currently Amended) A method of providing conferencing resources in an ex-
2 pandable telecommunications system having a plurality of nodes, [[having means
3 for connecting and disconnecting communications paths between a plurality of
4 ports, said nodes including switching nodes and at least two of said switching
5 nodes being conferencing nodes, said conferencing nodes including individual
6 digital signal processing (DSP) circuits programmed to perform a conference
7 between three or more participants who are callers connected at any port in the
8 system, said switching nodes having switching buses on which that node is as-
9 signed time slots for transmitting and receiving data and control information and
10 said switching nodes being connected in communicating relationship by an inter-
11 nodal network,]] and a host coupled to at least one node for controlling the system
12 in which conferencing resources are utilized by one or more nodes participating in
13 a conference, the method including the steps of:
- 14 (A) providing the plurality of nodes with means for connecting and discon-
15 necting communications paths between a plurality of ports having digital net-
16 work/line interfaces that couple the node with the PSTN and/or private networks,
17 said nodes including switching nodes that can switch communications to any port
18 connected to the system, and at least two of said switching nodes being
19 conferencing nodes, said conferencing nodes including individual digital signal

20 processing (DSP) circuits programmed to perform a conference between three or
21 more participants who are callers connected at any port in the system, and said
22 switching nodes having switching buses on which that node is assigned time slots
23 for transmitting and receiving data and control information and said switching
24 nodes being connected in communicating relationship by an inter-nodal network;

25 [[A)]] (B) defining a requested conference as being of one of a dynamic confer-
26 ence type, a critical conference type and a static conference type;

27 [[B)]] (C) identifying the DSP circuit within a conferencing node that has avail-
28 able resources for performing a conferencing function for a conference of that type as re-
29 quested in the system; and

30 [[C)]] (D) after said DSP circuit has been identified, determining whether the
31 node in which said identified DSP circuit is located has sufficient available time slots on
32 its switching bus to manage the data to and from all of the participants in the requested
33 conference.

1 3. (Currently Amended) The method of providing conferencing resources as defined
2 in claim 2, including the further step of employing [[a]] statistical analysis to determine
3 conference type.

1 4. (Previously Presented) The method of providing conferencing services as defined
2 in claim 3, including the further step of using historical data about past system conference
3 behavior in said statistical analysis to predict conference type.

1 5. (Previously Presented) The method of providing conferencing resources as de-
2 fined in claim 2, including the further step of employing user-defined parameters to de-
3 termine conference type.

1 6. (Previously Presented) The method of providing conferencing resources as de-
2 fined in claim 2, including the further step of using historical information about an aver-
3 age conference generally handled by a particular system and handled at a particular port
4 to predict conference type.

1 7. (Currently Amended) The method of ~~[[allocating]]~~ providing conferencing serv-
2 ices as defined in claim 2, including the further step of defining as said dynamic confer-
3 ence ~~[[as]]~~ a conference that is likely to change in size based upon predetermined criteria.

1 8. (Currently Amended) The method of ~~[[allocating conference]]~~ providing
2 conferencing services as defined in claim 7, including the further step of assigning the
3 DSP circuit card having the maximum available capacity to a conference which has been
4 identified as a dynamic conference.

1 9. (Currently Amended) The method of ~~[[allocating conference]]~~ providing
2 conferencing services as defined in claim 8, ~~[[indicating]]~~ including the further step of
3 selecting for a dynamic conference the DSP circuit in the system having as many chan-

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4 nels as possible such that a conference can grow as large as possible and that channels
5 remain available for participants who join the conference while in progress.

1 10. (Currently Amended) The method of [[allocating]] providing conferencing serv-
2 ices as defined in claim 2 including the further step of defining as said critical conference
3 a conference [[that is a conference]] that requires the maximum opportunity [[or]]for
4 growth in the system.

1 11. (Currently Amended) The method of [[allocating]] providing conferencing serv-
2 ices as defined in claim 10 including the further step of selecting, for a critical confer-
3 ence, the DSP circuit with the maximum available capacity and instructing the DSP cir-
4 cuit with said maximum available capacity to resolve these conference resources and to
5 establish the conference, and further instructing the DSP circuit to block other confer-
6 ences from being assigned to that DSP circuit such that capacity remains available for
7 that critical conference, for the life of that critical conference.

1 12. (Currently Amended) The method of [[allocating]] providing conferencing serv-
2 ices as defined in claim 11 including the further step of revealing blocked channels for
3 use by the DSP circuit, after the critical conference is finished.

1 13. (Currently Amended) The method of [[allocating]] providing conferencing serv-
2 ices as defined in claim 2, including the further step of defining as said static conference

3 [[as]] a conference[[,]] in which the number of participants [[in which is determined]]
4 will remain substantially constant.

1 14. (Currently Amended) The method of [[allocating]] providing conferencing serv-
2 ices [[a dined]] as defined in claim 13, including the further step of assigning a static con-
3 ference to a DSP circuit [[as]] on a "best fit" basis.

4 15. (Currently Amended) The method of providing conferencing services as defined in
5 claim 2, [[wherein said telecommunications system includes a line-to-switch (LSD) data
6 bus comprised of multiple individual bus conductors, each bus conductor ca5rrying car-
7 rying time slots coming into the mode from line cards, including T1 line cards, and said
8 system further including a switch-to-line (SLD) data bus comprised of multiple individ-
9 ual bus conductors that carry time slots of PCM-encoded data from a nodal switch in the
10 node back out as a destination line card]], the method including the steps of:

11 _____ (A) providing [[wherein]] said telecommunications system [[includes]]
12 with a line-to-switch (LSD) data bus comprised of multiple individual bus conductors,
13 each bus conductor [[ca5rrying]] carrying time slots coming into the [[mode]] node from
14 line cards, including T1 line cards, and said system further including a switch-to-line
15 (SLD) data bus comprised of multiple individual bus conductors that carry time slots of
16 PCM-encoded data from a nodal switch in the node back out [[as]] to a destination line
17 card; and

18 _____ (B) identifying a zone of time slots having the lowest order of alloca-
19 tion such that it [[in]] is least likely to be taken when a new T1 card is inserted into the

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20 system during operation, and assigning a conferencing node to use these lowest order of
21 allocation time slots for a requested conference.

1 16. (Previously Presented) The method of providing conferencing resources as de-
2 fined in claim 15, including the step of:

3 (a) allocating zones of time slots in such a manner that 192 time slots of a T1
4 span are divided into the following segments:

5 time slots 0-191 are in the regular T1 channel;

6 time slots 192-215 are the lower dead zone;

7 time slots 216-223 are in the lower small dead zone;

8 time slots 224-247 are in the upper large dead zone; and

9 time slots 248-255 are in the upper small dead zone; and

10 (b) assigning time slots in the lower and upper small dead zones of the indi-
11 vidual bus conductors to conferences.

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1 17. (Currently Amended) An expandable telecommunications system having means
2 for conferencing three or more participants interfaced with the system[[:]]
3 the system [[including]] comprising.

4 (A) a plurality of nodes for performing telecommunications switching, each of
5 said switching nodes including means for dynamically connecting or disconnecting

6 communication paths with respect to various ones of a plurality of ports, means for time
7 switching information to or from said ports, means for coupling the node with the PSTN
8 and/or private networks via digital network/line interfaces, said nodes including switch-
9 ing nodes that can switch communications to any port connected to the system, and
10 means for transmitting and receiving information in packetized forms, and means con-
11 nected in communicating relationships including a bus for carrying data to and
12 from said ports~~[[, the system comprising:]]~~;

13 ~~[[a)]]~~ (B) a host connected in communicating relationship with at least one of
14 said switching nodes, said host controlling predetermined operations of the system;

15 ~~[[b)]]~~ (C) means in said switching nodes for generating and sending a message
16 requesting establishment of a conference call for at least three conferees connected to one
17 or more of said nodes;

18 ~~[[c)]]~~ (D) means for interconnecting said switching nodes in communicating re-
19 lationships and operable in conjunction with said transmitting and receiving means to
20 transfer said packetized information such that information which originates from any port
21 in the switching nodes ~~[[in]]~~ is substantially continuously communicable to any node in-
22 terfaced with said interconnecting means; ~~[[and]]~~

23 ~~[[d)]]~~ (E) at least one conferencing node for providing conferencing services,
24 said at least one conferencing node interfaced with said interconnecting means and in-
25 cluding individual DSP circuits; and

26 ~~[[e)]]~~ (F) means for allocating conferencing resources including:

27 1. means ~~[[or]]~~ for determining whether a DSP circuit in a
28 conferencing ~~[[mode]]~~ node has available conferencing resources to perform a requested
29 conference; and

30 2. means for determining whether the conferencing node has suffi-
31 cient available time slots on its switching buses to manage the data to and from the con-
32 ferences or a particular requested conference.

1 18. (Previously Presented) The expandable telecommunications system as defined in
2 claim 17 further comprising:

3 A. a DSP card in said conferencing node, including:

4 1. a DSP module which contains a plurality of DSP circuits; and

5 2. a CPU including means for receiving messages about conferences
6 to be established, and means for routing voice information to a DSP chip identified for a
7 particular conference; and

8 B. line-to-switch (LSD) data bus interfaced with line cards which connect
9 ports in the system, and which carries a PCM-encoded voice information from the line
10 cards to said DSP cards.

- 1 19. (New) The expandable telecommunications system as defined in claim 18
2 wherein said voice information for paid conference arrives at a port coupled with one
3 or more of the following:
- 4 a. a landline telephone;
 - 5 b. the PSTN;
 - 6 c. a private network;
 - 7 d. a wireless network; and
 - 8 e. the Internet.